

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the present application.

IN THE CLAIMS:

1-24. (Canceled).

25. (Currently Amended) An isolated DNA molecule encoding a mutant modified protein exhibiting alkaline liquefying α -amylase activity at a pH optimum of 8-9 and having possessing an amino acid sequence which that differs from has been obtained by modifying an amino acid sequence described in SEQ ID NO:2 by substitution, deletion, or insertion of one amino acid in a manner in which one amino acid is substituted, deleted, or inserted without changing enzymological properties of a protein having the amino acid sequence described in SEQ ID NO:2 and wherein said modified protein hydrolyzes 1,4 α glucosidic linkages in starches, amylose, amylopectin, and degradation products thereof and in amylose forms glucose, maltose, maltotriose, maltotetraose, maltopentose and maltohexose and does not hydrolyze pullulan.

26. (Currently Amended) The isolated DNA molecule of claim 25,
~~further comprising which is operably linked to a nucleotide~~
sequence for regulating expression of the DNA molecule.

27. (Previously Presented) A recombinant DNA comprising the
DNA molecule of claim 25.

28. (Canceled).

29. (Previously Presented) The DNA molecule of claim 25,
wherein said encoded protein has an isoelectric point higher than
8.5 when measured by isoelectric focusing electrophoresis.

30. (Canceled).

31. (Currently Amended) The DNA molecule of claim 25, ~~which~~
~~encodes a protein exhibiting alkaline liquefying α-amylase activity~~
~~at a pH optimum of 8-9,~~ comprising at least one nucleotide sequence
selected from the group consisting of SEQ ID NO: 10, SEQ ID NO: 7,
SEQ ID NO: 3, SEQ ID NO: 6 and SEQ ID NO: 9.

32. (Currently Amended) The DNA molecule of claim 25, ~~which~~
~~encodes a protein exhibiting alkaline liquefying α-amylase activity~~

~~at a pH optimum of 8-9 comprising at least one nucleotide sequence that is the reverse complement of a sequence selected from the group consisting of SEQ ID NO: 8, SEQ ID NO: 5, SEQ ID NO: 4 and SEQ ID NO: 11.~~

33. (Currently Amended) The DNA molecule of claim 25, ~~which encodes a protein exhibiting alkaline liquefying α-amylase activity at a pH optimum of 8-9 comprising at least one nucleotide sequence selected from the group consisting of SEQ ID NO: 10, SEQ ID NO: 7, SEQ ID NO: 3, SEQ ID NO: 6 and SEQ ID NO: 9, and also comprising at least one nucleotide sequence that is the reverse complement of a sequence selected from the group consisting of SEQ ID NO: 8, SEQ ID NO: 5, SEQ ID NO: 4 and SEQ ID NO: 11.~~

34-43. (Canceled).